## AMENDMENTS TO THE CLAIMS

Below is the entire set of pending claims pursuant to 37 C.F.R. 1.121(c).

1 - 48. (Canceled)

49.     (Currently Amended)  In a computer-based publish/subscribe system having a subscriber application that has previously subscribed to receive a particular type of message, a computer-implemented method for establishing a certified messaging session between a publisher application and the subscriber application, the computer-implemented method comprising:

receiving, at the publisher application, a certified messaging subscription request, said certified messaging subscription request including a subscriber name identifying the subscriber application, ~~an address where the subscriber application receives messages,~~ and a subject name associated with and identifying the particular type of message for which the certified messaging session is to be established;

responsive to receiving the certified messaging subscription request, establishing the certified messaging session with the subscriber application by adding the subscriber name to a message ledger at the publisher application, and communicating an acknowledgment message to the subscriber application, the acknowledgment message to acknowledge the establishment of the certified messaging session; ~~and,~~

attempting to deliver a certified message of the particular type in accordance with the certified messaging session by assigning a sequence number to the certified message, ~~addressing the certified message to the address where the subscriber application receives messages,~~ communicating the certified message from the publisher application to the subscriber application, recording a delivery attempt of the certified message in the ledger, and retaining the certified message in the ledger at least until the publisher application has received a confirmation

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message from the subscriber application, the confirmation message confirming receipt of the certified message at the subscriber application; and

communicating a confirmation request from the publisher application to the subscriber application if the publisher application has not received a confirmation message from the subscriber application within a predetermined period of time after attempting to deliver the certified message identified by the assigned sequence number, the confirmation request requesting that the subscriber application acknowledge receipt of the certified message identified by the assigned sequence number.

50.     (Previously Presented)  The computer-implemented method of claim 49, further comprising:

responsive to receiving, at the publisher application, a confirmation message confirming receipt of the certified message identified by the assigned sequence number at the subscriber application, updating the ledger at the publisher application to indicate the certified message identified by the assigned sequence number was received by the subscriber application.

51.     (Previously Presented)  The computer-implemented method of claim 49, further comprising:

responsive to receiving, at the publisher application, a confirmation message confirming receipt of the certified message identified by the assigned sequence number at the subscriber application, deleting the certified message identified by the assigned sequence number from the ledger at the publisher application.

52.     (Previously Presented)  The computer-implemented method of claim 49, further comprising:

responsive to receiving, at the publisher application, a confirmation message confirming receipt of the certified message identified by the assigned sequence number at the subscriber application, deleting the certified message identified by the assigned sequence number from the ledger if the ledger indicates that all subscriber applications, to which the certified message identified by the assigned sequence number has been sent, have confirmed receipt of the certified message identified by the assigned sequence number.

53.    (Canceled)

54.    (Previously Presented)  The computer-implemented method of claim 49, wherein the ledger is a file-based ledger, and the certified messaging session is persistent beyond termination and restart of the publisher application and/or the subscriber application.

55.    (Previously Presented)  The computer-implemented method of claim 49, wherein prior to establishing the certified messaging session with the subscriber application, the publisher application, with which the subscriber application has previously subscribed for a particular type of message, publishes messages that are communicated to the subscriber application without the publisher application having knowledge of the existence of the subscriber application.

56.    (Currently Amended)  In a computer-based publish/subscribe system having a subscriber application that has previously subscribed for a particular type of message, a computer-implemented method for establishing a certified messaging session between a publisher application and the subscriber application, the computer-implemented method comprising:

    communicating a certified messaging subscription request from the subscriber application to the publisher application, said certified messaging subscription request including a subscriber name identifying the subscriber application, an address where the subscriber application

~~receives messages,~~ and a subject name associated with and identifying the particular type of message for which the certified messaging session is to be established;

receiving, at the subscriber application, an acknowledgement message from the publisher application, said acknowledgment message acknowledging the establishment of the certified messaging session;

receiving, at the subscriber application, a certified message from the publisher application in accordance with the certified messaging session, the certified message identified by a sequence number; ~~and~~

responsive to receiving, at the subscriber application, the certified message identified by the sequence number from the publisher application, updating a ledger at the subscriber application to indicate the receipt of the certified message identified by the sequence number, and communicating a confirmation message to the publisher application, the confirmation message confirming receipt of the certified message identified by the sequence number at the subscriber application; and

__after communicating a confirmation message to the publisher application, receiving a confirmation request from the publisher application, the confirmation request requesting a confirmation message from the subscriber application to confirm receipt of a certified message having a particular sequence number.__

57.    (Currently Amended) The computer-implemented method of claim 56, further comprising:

~~after communicating a confirmation message to the publisher application, receiving a confirmation request from the publisher application, the confirmation request requesting~~

a confirmation message from the subscriber application to confirm receipt of a certified message having a particular sequence number;

verifying whether the ledger indicates a certified message having the particular sequence number has been received at the subscriber application, and if so, communicating a second confirmation message to the publisher application, the second confirmation message confirming receipt of the certified message having the particular sequence number at the subscriber application.

58.     (Currently Amended)  The computer-implemented method of claim 56, further comprising:

after communicating a confirmation message to the publisher application receiving a confirmation request from the publisher application, receiving a second certified message having a sequence number indicating a previous certified message was sent by the publisher application, but not received by the subscriber application; and

communicating a certified message request to the publisher application, the certified message request including a sequence number associated with a certified message that the ledger indicates was **not** previously received at the subscriber application.

59.     (Previously Presented)  The computer-implemented method of claim 56, wherein the ledger is a file-based ledger, and the certified messaging session is persistent beyond termination and restart of the publisher application and/or the subscriber application.

60.     (Currently Amended)  A publisher application for communicating certified messages to a subscriber application via a certified messaging session, the publisher application and the subscriber application part of an anonymous publish/subscribe computer system, the publisher application comprising:

a process to receive a certified messaging subscription request, said certified messaging subscription request including a subscriber name identifying the subscriber application, ~~an address where the subscriber application receives messages,~~ and a subject name associated with and identifying the particular type of message for which the certified messaging session is to be established;

a process to establish the certified messaging session with the subscriber application in response to receiving the certified messaging subscription request by adding the subscriber name to a message ledger at the publisher application, and communicating an acknowledgment message to the subscriber application, the acknowledgment message to acknowledge the establishment of the certified messaging session; and

a certified delivery process to attempt to deliver a certified message of the particular type in accordance with the certified messaging session by assigning a sequence number to the certified message, ~~addressing the certified message to the address where the subscriber application receives messages,~~ communicating the certified message from the publisher application to the subscriber application, recording a delivery attempt of the certified message in the ledger, and retaining the certified message in the ledger at least until the publisher application has received a confirmation message from the subscriber application, the confirmation message confirming receipt of the certified message at the subscriber application, **wherein the certified delivery process is to communicate a confirmation request to the subscriber application if the publisher application has not received a confirmation message from the subscriber application within a predetermined period of time after attempting to deliver the certified message identified by the assigned sequence number, the confirmation request requesting**

<u>that the subscriber application acknowledge receipt of the certified message identified by</u>
<u>the assigned sequence number</u>.

~~responsive to receiving, at the publisher application, a confirmation message~~
~~confirming receipt of the certified message identified by the assigned sequence number at~~
~~the subscriber application, updating the ledger at the publisher application to indicate the~~
~~certified message identified by the assigned sequence number was received by the~~
~~subscriber application.~~

61.     (Previously Presented)  The publisher application of claim 60, wherein, responsive to
receiving, at the publisher application, a confirmation message confirming receipt of the certified
message identified by the assigned sequence number at the subscriber application, the certified
delivery process is to delete the certified message identified by the assigned sequence number
from the ledger at the publisher application.

62.     (Previously Presented)  The publisher application of claim 60, wherein, responsive to
receiving, at the publisher application, a confirmation message confirming receipt of the certified
message identified by the assigned sequence number at the subscriber application, the certified
delivery process is to delete the certified message identified by the assigned sequence number
from the ledger if the ledger indicates that all subscriber applications, to which the certified
message identified by the assigned sequence number has been sent, have confirmed receipt of the
certified message identified by the assigned sequence number.

63.     (Canceled)

64. (Previously Presented) The publisher application of claim 60, wherein the ledger is a file-based ledger, and the certified messaging session is persistent beyond the publisher application or the subscriber application being terminated and restarted.

65. (Previously Presented) The publisher application of claim 60, further comprising:

a messaging process to publish messages with a subject name associated with content of the messages, the messages communicated to subscriber applications that have subscribed to receive messages having a particular subject name without the publisher application having knowledge of the existence of the subscriber application.

66. (Currently Amended) A subscriber application for receiving certified messages from a publisher application via a certified messaging session, the publisher application and the subscriber application part of an anonymous publish/ subscribe computer system, the subscriber application comprising:

a process to communicate a certified messaging subscription request from the subscriber application to the publisher application, said certified messaging subscription request including a subscriber name identifying the subscriber application, ~~an address where the subscriber application receives messages,~~ and a subject name associated with and identifying the particular type of message for which the certified messaging session is to be established;

a process to receive, at the subscriber application, an acknowledgement message from the publisher application, said acknowledgment message acknowledging the establishment of the certified messaging session; and

a certified delivery process to receive, at the subscriber application, a certified message from the publisher application in accordance with the certified messaging session, the certified message identified by a sequence number, and responsive to receiving the certified message

identified by the sequence number from the publisher application, to update a ledger at the

subscriber application to indicate the receipt of the certified message identified by the sequence

number, and to communicate a confirmation message to the publisher application, the

confirmation message confirming receipt of the certified message identified by the sequence

number at the subscriber application, **wherein, after communicating a confirmation message**

**to the publisher application, the certified message process is to receive a confirmation**

**request from the publisher application, the confirmation request requesting a confirmation**

**message from the subscriber application to confirm receipt of a certified message having a**

**particular sequence number.**

67.     (Currently Amended) The subscriber application of claim 66, ~~wherein, after~~

~~communicating a confirmation message to the publisher application, the certified message~~

~~process is to receive a confirmation request from the publisher application, the~~

~~confirmation request requesting a confirmation message from the subscriber application to~~

~~confirm receipt of a certified message having a particular sequence number;~~ wherein the

certified message process is to verify whether the ledger indicates a certified message having the

particular sequence number has been received at the subscriber application, and if so, to

communicate a second confirmation message to the publisher application, the second

confirmation message confirming receipt of the certified message having the particular sequence

number at the subscriber application.

68.     (Currently Amended) The subscriber application of claim 66, wherein, after

~~communicating a confirmation message to the publisher application~~receiving a

confirmation request from the publisher application, the certified message process is to

receive a second certified message having a sequence number indicating a previous certified

message was sent by the publisher application, but not received by the subscriber application, and wherein the certified message process is to communicate a certified message request to the publisher application, the certified message request including a sequence number associated with a certified message that the ledger indicates was **not** previously received at the subscriber application.

69.    (Previously Presented)  The subscriber application of claim 66, wherein the ledger is a file-based ledger, and the certified messaging session is persistent beyond the publisher application or the subscriber application being terminated and restarted.

70.    (New)  The publisher application of claim 60, wherein, responsive to receiving, at the publisher application, a confirmation message confirming receipt of the certified message identified by the assigned sequence number at the subscriber application, updating the ledger at the publisher application to indicate the certified message identified by the assigned sequence number was received by the subscriber application.